

CLAIMS

What is claimed is:

I claim:

1. An apparatus, comprising:

a multiple-image viewer to concurrently display multiple images within a single window in a network system, the viewer enabling manipulation of a displayed image, the displayed image being a raster graphics file, each of the displayed images having a separate data file.

2. The apparatus of claim 1, wherein manipulation of the displayed image is one in a group consisting of zooming in on the displayed image, zooming out from the displayed image, selecting a region of interest of the displayed image, restoring an initial view of the displayed image, panning the displayed image, linking to the displayed image, stretching the displayed image, centering the displayed image in the window, resetting/undoing an operation performed on the displayed image, magnifying the displayed image, moving left on the displayed image, moving right on the displayed image, moving up on the displayed image, or moving down on the displayed image.

3. The apparatus of claim 1, wherein the multiple-image viewer comprises a web-based application.

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4. The apparatus of claim 3, wherein the web-based application is one in a group consisting of a browser, a Java applet, an Active-X control, or a plug-in.
5. The apparatus of claim 1, wherein the window is one in a group consisting of a plug in window or a browser window.
6. The apparatus of claim 1, wherein the window comprises a viewing area defined by a page description language.
7. The apparatus of claim 1, wherein the multiple-image viewer comprises a computer readable medium containing a program to concurrently display and manipulate multiple images within a single window in a network system.
8. The apparatus of claim 1, wherein the network system is one in a group of a client server system, a World Wide Web, an Internet, a mobile phone network, a first device in communication with a second device.
9. The apparatus of claim 1, wherein the displayed image comprises a folder having a hierarchical structure.
10. The apparatus of claim 1, wherein the displayed image further comprises an attribute for multi-resolution capability.

11. The apparatus of claim 1, wherein the multiple-image viewer manipulates the displayed images either as a group or individually.

12. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to calculate which part of the displayed image that will appear in the window and then to request data that corresponds to the part of the displayed image that will appear in the window.

13. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to calculate one or more geometric coordinates of a portion of the displayed image to appear in the window, and then to request blocks data for the portion of the displayed image to appear in the window.

14. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to display multiple images at different resolution levels.

15. The apparatus of claim 1, wherein the displayed image comprises an image having a hierarchical structure.

16. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to display and manipulate a folder having a hierarchical structure.

17. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to display and manipulate an image compressed according to a block based integer wavelet transform entropy coding scheme.

18. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to decode and to display multiple images within the window.

19. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to keep track of the data being displayed in the window and the data being stored locally in a cache.

20. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to scale the displayed image to a new size with data stored in a cache until the multiple-image viewer decodes data corresponding to the new size from a server.

21. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to request data for only the displayed image or a part of the image that is actually to appear in the window.

22. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to request all data pertaining to the displayed image but only to decode a portion of the data corresponding to a part of the displayed image which is actually to appear in the window.

23. The apparatus of claim 1, wherein the multiple-image viewer further comprises a module to request and decode an amount of data corresponding to an actual area of an image to be displayed, blocks of data surrounding that area of the image to be displayed, and data for one level of higher resolution of the image being displayed.

24. The apparatus of claim 15, wherein the image having the hierarchical structure comprises the image having a folder, the folder having content, and the content being within the folder.

25. The apparatus of claim 15, wherein the image having the hierarchical structure comprises an image having content, the content being within the image.

26. The apparatus of claim 24, wherein content is one in a group consisting of a subfolder, a graphic object, a text document, a hyperlink, a border information, an image map, or an image address.

27. The apparatus of claim 1, further comprising a predetermined setting to cause a client to request more data for the displayed image appearing in the window.

28. The apparatus of claim 27, wherein the predetermined setting is one in a group consisting of a level of zoom, a predetermined resolution level, a size of the image, a percentage of a full sized original image, or a display level.

29. The apparatus of claim 27, wherein the predetermined setting comprising a value set at the time of the creation of the webpage.

30. The apparatus of claim 27, further comprising the predetermined setting having a value, below the value of the predetermined setting a representation of an object is displayed and above the value of the predetermined setting the object is displayed.

31. The apparatus of claim 30, wherein the object is one in a group consisting of the displayed image, a folder, content associated with the displayed image, or content associated with the folder.

32. The apparatus of claim 27, further comprising the predetermined setting having a value, below the value of the predetermined setting an object is not displayed and above the value of the predetermined setting the object is displayed.

33. A computer system, comprising:

a client having a memory;

a computer program to manipulate and to display multiple images within a single window, the program executable by the client, one or more of the multiple images being a raster graphics file, each of the displayed images having a separate data file;

a network connection; and

an image database associated with a server.

34. The computer system of claim 33, wherein the program further comprises a module to display and to manipulate one or more of the multiple images, at least one of the multiple images having a hierarchical structure.

35. The computer system of claim 33, wherein the program further comprises a module to scale a displayed image to a new size with data stored in the cache until the program decodes data corresponding to the new size from the image database.

36. The computer system of claim 33, wherein the program further comprises a module to display and to manipulate one or more of the multiple images, at least one of the multiple images having multiple levels of resolution.

37. The computer system of claim 33, wherein the program further comprises a module to manipulate the displayed images either as a group or individually.

38. A method, comprising:

creating a window, the window being defined by a page description language;
displaying multiple raster graphic images in the window, each of the multiple raster graphic images having a separate data file; and
enabling manipulation of one or more of the multiple raster graphic images displayed in the window.

39. The method of claim 38, further comprising:

displaying one or more of the multiple raster graphic images having a hierarchical structure.

40. The method of claim 45, further comprising:

displaying one or more of the multiple raster graphic images having multiple levels of resolution.

41. The method of claim 38, wherein one or more of the multiple raster graphic images comprise a raster graphic image that was compressed according to a block based integer wavelet transform coding scheme.

42. The method of claim 38, further comprising:

scaling one or more of the multiple raster graphic images to a new size with data stored in a cache until a program decodes data corresponding to the new size.

43. The method of claim 38, further comprising:

displaying a representation of an object in the window when a value is below a predetermined setting and displaying the object in the window when the value is above the predetermined setting.

44. An apparatus, comprising:

means for creating a window defined by a page description language;

means for displaying multiple raster graphic images in the window, each of the multiple raster graphic images having a separate data file; and

means for enabling manipulation of one or more of the multiple raster graphic images displayed in the window.

45. The apparatus of claim 44, wherein one or more of the multiple raster graphic images have a hierarchical structure.

46. The apparatus of claim 44, wherein one or more of the multiple raster graphic images have multiple levels of resolution.

47. The apparatus of claim 44, wherein one or more of the multiple raster graphic images was compressed according to a block based integer wavelet transform coding scheme.

48. The apparatus of claim 44, further comprising:

means for scaling one or more of the multiple raster graphic images to a new size with data stored in a cache until a program decodes data corresponding to the new size.

49. The apparatus of claim 44, further comprising:

means for displaying a representation of an object in the window when a value is below a predetermined setting and displaying the object in the window when the value is above the predetermined setting.

50. The apparatus of claim 44, further comprising:

means for displaying multiple images at different resolution levels in the window.
